



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/835,746	04/16/2001	Jason M. Lee	01AB056	5649

7590 12/09/2004

Alexander M. Gerasimow  
Rockwell Automation (Allen-Bradley Co., Inc.)  
1201 South Second Street  
Milwaukee, WI 53204

EXAMINER
----------

PHAM, THOMAS K

ART UNIT	PAPER NUMBER
----------	--------------

2121

DATE MAILED: 12/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/835,746

Applicant(s)

LEE ET AL.

Examiner

Thomas K Pham

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 and 47-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,7-16,18-20,22,24-33 and 47-50 is/are rejected.
- 7) ☒ Claim(s) 4,6,17,21,23,34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

***Response to Amendment***

1. This action is in response to request for re-consideration filed on 09/07/2004.
2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

**Quotations of U.S. Code Title 35**

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2121

### **Claim Rejections - 35 USC § 112**

7. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 11 recites the limitation "the correct wiring indicia" in line 1. There is insufficient antecedent basis for this limitation in the claim.

### **Claim Rejections - 35 USC § 102**

9. Claims 1-3, 5, 8, 10-14, 16, 18-20, 22, 25, 27-31 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,530,643 ("Hodorowski").

#### **Regarding claims 1 and 18**

Hodorowski teaches a user interface for creation and editing of a function block diagram in a controller configuration system, comprising:

- a function block diagram representation (see fig. 3 and col. 2 lines 33-51); and
- **one of** a wire connector cross-reference indicia, a pin datatype indicia, and a block execution status information indicia (col. 23 lines 14-22, "The mandatory report message ... are intact and executing");
- wherein the interface allows a user to modify the function block diagram representation in the controller configuration system (col. 3 lines 1-26).

#### **Regarding claims 2 and 19**

Hodorowski discloses a feedback loop indicia comprises a localized feedback wire indicating the presence of a feedback loop in the function block diagram representation (col. 23 lines 20-22

Art Unit: 2121

[Hodorowski discloses the validation of feedback paths which inherently included in the function block diagram representation]).

**Regarding claims 3 and 20**

Hodorowski teaches the wire connector cross-reference indicia provides an indication proximate a wire connector in the function block diagram representation of a connection associated with the wire connector (col. 18 lines 26-53, “The wire numbers are independent ... may be separately connected”).

**Regarding claims 5 and 22**

Hodorowski teaches the connector cross-reference indicia provides an indication proximate a wire connector in the function block diagram representation of a plurality of connections associated with the wire connector (col. 18 lines 53-51, “Wire number 101 which ... its two upstream paths”).

**Regarding claims 8 and 25**

Hodorowski teaches the wiring error indicia provides an indication that a user is attempting to make an improper wiring connection to a function block in the function block diagram representation (col. 14 lines 54-60, “A second table 132 ... breakers 55 and 57 will open”).

**Regarding claims 10 and 27**

Hodorowski teaches the correct wiring indicia provides an indication that a user is attempting to make a proper wiring connection to a function block in the function block diagram representation (col. 17 lines 42-49, “The connection are indicated ... of any programming errors”).

**Regarding claims 11 and 28**

Art Unit: 2121

Hodorowski teaches the correct wiring indicia provides an indication that a user is attempting to make a proper wiring connection to a function block in the function block diagram representation (col. 17 lines 42-49, “The connection are indicated ... of any programming errors”).

**Regarding claims 12 and 29**

Hodorowski teaches the free-form text box comprises one of text, an OLE object, a control, a faceplate, HTML tagged text, and a link in the function block diagram representation (col. 14 lines 8-10).

**Regarding claims 13 and 30**

Hodorowski teaches the configuration error indicia comprises an indication proximate a function block diagram element in the function block diagram representation indicating that the function block diagram element cannot be verified as currently configured (col. 14 lines 54-60, “A second table 132 ... breakers 55 and 57 will open”).

**Regarding claims 14 and 31**

Hodorowski teaches the block execution status information indicia comprises an indication of a status condition associated with a function block in the function block diagram representation (col. 23 lines 14-22, “The mandatory report message ... are intact and executing”).

**Regarding claims 16 and 33**

Hodorowski teaches the wired block parameter indicia comprises an indication in a properties page associated with a function block that a parameter associated with the block is wired to a value source in the function block diagram representation (fig. 15, wire list 275).

Art Unit: 2121

10. Claims 47-50 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,971,581 ("Gretta").

**Regarding claim 47**

Gretta teaches a user interface for creation and editing of a function block diagram in a controller configuration system, comprising: an input wire connector having an input wire name associated therewith (col. 15 lines 28-34, "First the user selects ... of the PID function block"); and an output wire connector having an output wire name associated therewith (col. 15 lines 34-38, "the OUT output of the ... input of the AO-FISHER function block"); wherein the user interface is adapted to establish an association between a first function block diagram element connected to the input wire connector and a second function block diagram element connected to the output wire connector if the input wire name and the output wire name are the same (col. 15 lines 45-55, "During a wiring operation ... to a highlighted connection").

**Regarding claim 48**

Gretta teaches a user may create the input wire name associated with the input wire connector (col. 8 lines 12-16, "Devices are uniquely identified ... unique on a fieldbus network"); and wherein the user interface is adapted to indicate to the user output wire names associated with output wire connectors available for association with the input wire connector (col. 8 lines 57-62, "blocks 30 are configured to ... unique on a fieldbus network"); whereby the user may select an output wire name for use as the input wire name in order to associate the input wire connector with a desired output wire connector (col. 15 lines 45-55, "During a wiring operation ... to a highlighted connection").

**Regarding claim 49**

Art Unit: 2121

Gretta teaches a user may create the output wire name associated with the output wire connector (col. 8 lines 57-62, “blocks 30 are configured to ... unique on a fieldbus network”); and wherein the user interface is adapted to indicate to the user input wire names associated with input wire connectors available for association with the output wire connector (col. 8 lines 12-16, “Devices are uniquely identified ... unique on a fieldbus network”); whereby the user may select an input wire name for use as the output wire name in order to associate the output wire connector with a desired input wire connector (col. 15 lines 45-55, “During a wiring operation ... to a highlighted connection”).

#### **Regarding claim 50**

Gretta teaches input wire names associated with input wire connectors already associated with another output wire connector are not indicated to the user, whereby the user is prevented from inadvertently associating an input with more than one output (col. 15 lines 53-56, “the user is only ... and reduces wiring errors”).

#### **Claim Rejections - 35 USC § 103**

11. Claims 15 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gretta in view of U.S. Patent No. 5,812,394 (“Lewis”).

#### **Regarding claims 15 and 32**

Hodorowski teaches a user interface for creation and editing of a function block diagram in a controller configuration system but does not teach the block execution status information indicia comprises an indication in a properties page associated with the function block. However, Lewis teaches an execution status properties associated with the function block (col. 26 lines 10-60) for



Art Unit: 2121

the purpose of using the properties to develop control programs quicker and easier. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the status property of Lewis with the user interface of Hodorowski because it would provide for the purpose of using the properties to develop control programs quicker and easier.

12. Claims 7, 9, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hodorowski.

**Regarding claims 7 and 24**

Hodorowski teaches the user interface but does not teach the pin data type indicia provides an indication of whether a datatype associated with a function block pin is one of boolean, non-boolean, or unknown in the function block diagram representation. "Official Notice" is taken for both the concept and advantages of having the pin data type indication on a function block diagram is well known and expected in the art. U.S. Patent No. 5,301,336 by Kodosky et al. shows a list of different pin data type indications for use on a function block diagram (see fig. 58). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the pin data types indications as expected in the art on any of the high quality graphical programming tools.

**Regarding claims 9 and 26**

Hodorowski teaches the improper wiring connection checking but does not teach the improper wiring connection comprises connection of a wire of a first datatype to a pin of a second datatype, wherein the first and second datatypes are incompatible. "Official Notice" is taken for both the concept and advantages of having checking wiring of incompatible datatype between

Art Unit: 2121

connection. U.S. Patent No. 5,301,336 by Kodosky et al. teaches checking for wiring error including checking the datatype within the connections (see col. 48 lines 4-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include an error check for incompatible datatypes for proper operation of the devices.

### **Allowable Subject Matter**

13. Claims 4, 6, 17, 21, 23 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

14. Applicant's arguments with respect to claims 1-34 have been considered but are moot in view of the new ground(s) of rejection.

15. Applicant's arguments with respect to claims 47-50 have been fully considered but they are not persuasive.

*In the remark the applicant argues* that cited reference fails to disclose:

I) the input wire name and the output wire name must match for the two function block elements that are connected via a wire as in claim 47.

*In response to applicant's argument,*

I) It is noted that prior art (Gretta) teaches (figures 18a and 18b shows that the output "BKCAL" of the AO-FISHER function block being connected to the input "BKCAL" of the PID function block.) By looking at the figures notations, one of ordinary skill in the art would know that the

Art Unit: 2121

name "BKCAL OUT" and "BKCAL IN" are the same name except for indicating one to be use as an output and the other as an input, respectively. Therefore, it is clear that the input and output names are the same in Greta function blocks. Thus, limitations are meet by the reference.

### ***Conclusion***

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

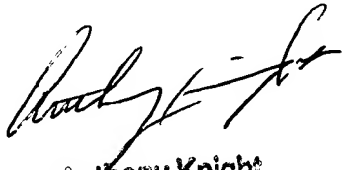
Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Thomas Pham*; whose telephone number is (571) 272-3689, Monday to Thursday from 6:30 AM - 5:00 PM EST or contact Supervisor *Mr. Anthony Knight* at (571) 272-3687.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Thomas Pham**  
*Patent Examiner*

*TP*

December 3, 2004

  
**Anthony Knight**  
Supervisory Patent Examiner  
Group 3600